



Sequence Listing 6277US.ST25  
SEQUENCE LISTING

<110> Universtiy of Utah Research Foundation  
Bessereau, Jean-Louis  
Jorgensen, Erik

<120> Method of Transposon-Mediated Mutagenesis in the Nematode  
Caenorhabditis Elegans

<130> 0274-6277.1US

<140> US 09/980,644

<141> 2001-11-01

<150> PCT/US00/40091

<151> 2000-06-01

<150> US 60/136,972

<151> 1999-06-01

<160> 43

<170> PatentIn version 3.2

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<211> 26

<212> DNA

<213> Artificial

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<223> Primer oJL102

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<220>  
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<400> 13

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<223> primer oJL22

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ggtgacgtgg agattacgtc cccgtaaaaa ttattgcaa atatgcaacg gtggccgaga 180  
aaatccgcga ccccgtcgac ccagacacgg ttgattctcc agtgacggtc gatcaacaaa 240  
aaagatccat ttttcatctc cagtaacgat acgatgcaaa aacgacttcc ttttgtatcg 300  
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<212> DNA  
<213> *Drosophila mauritiana*

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gaacaagtac caactgtgaa aacgtgtgaa cgggtggtttc aacgcttcaa aagtggatgat 180  
tttgacgtcg acgacaaaaga gcacggaaaa ccgcaaaaaa ggtacgaaga cgccgaactg 240  
caagcattat tggatgaaga cgatgctcaa acgcaaaaaac aactcgcaga gcagttggaa 300  
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caaaaaagac aacacagggt cttttttctc catgacaacg ctccatcaca tacggcaaga 780  
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ccagacctgg ccccatccga ttaccaccta ttcgcttcga tgggacacgc actcgctgag 900  
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<210> 25

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<211> 345

<212> PRT

<213> *Drosophila mauritiana*

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20 25 30

Val Glu Ala Phe Gly Glu Gln Val Pro Thr Val Lys Thr Cys Glu Arg  
35 40 45

Trp Phe Gln Arg Phe Lys Ser Gly Asp Phe Asp Val Asp Asp Lys Glu  
50 55 60

His Gly Lys Pro Pro Lys Arg Tyr Glu Asp Ala Glu Leu Gln Ala Leu  
65 70 75 80

Leu Asp Glu Asp Asp Ala Gln Thr Gln Lys Gln Leu Ala Glu Gln Leu  
85 90 95

Glu Val Ser Gln Gln Ala Val Ser Asn Arg Leu Arg Glu Met Gly Lys  
100 105 110

Ile Gln Lys Val Gly Arg Trp Val Pro His Glu Leu Asn Glu Arg Gln  
115 120 125

Met Glu Arg Arg Lys Asn Thr Cys Glu Ile Leu Leu Ser Arg Tyr Lys  
130 135 140

Arg Lys Ser Phe Leu His Arg Ile Val Thr Gly Asp Glu Lys Trp Ile  
145 150 155 160

Phe Phe Val Asn Pro Lys Arg Lys Lys Ser Tyr Val Asp Pro Gly Gln  
165 170 175

Pro Ala Thr Ser Thr Ala Arg Pro Asn Arg Phe Gly Lys Lys Thr Met  
180 185 190

Leu Cys Val Trp Trp Asp Gln Ser Gly Val Ile Tyr Tyr Glu Leu Leu  
195 200 205

Lys Pro Gly Glu Thr Val Asn Thr Ala Arg Tyr Gln Gln Gln Leu Ile

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210

215

220

Asn Leu Asn Arg Ala Leu Gln Arg Lys Arg Pro Glu Tyr Gln Lys Arg  
225 230 235 240

Gln His Arg Val Ile Phe Leu His Asp Asn Ala Pro Ser His Thr Ala  
245 250 255

Arg Ala Val Arg Asp Thr Leu Glu Thr Leu Asn Trp Glu Val Leu Pro  
260 265 270

His Ala Ala Tyr Ser Pro Asp Leu Ala Pro Ser Asp Tyr His Leu Phe  
275 280 285

Ala Ser Met Gly His Ala Leu Ala Glu Gln Arg Phe Asp Ser Tyr Glu  
290 295 300

Ser Val Lys Lys Trp Leu Asp Glu Trp Phe Ala Ala Lys Asp Asp Glu  
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Phe Tyr Trp Arg Gly Ile His Lys Leu Pro Glu Arg Trp Glu Lys Cys  
325 330 335

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340 345

<210> 26  
<211> 1326  
<212> DNA  
<213> Artificial

<220>  
<223> oxTil insertion of Mos1 into C. Elegans genome

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ccttgactgt cgaaccacca tagtttggcg cgaattgagc gtcataattg tttactctca 180  
gtgcagtcaa catgtcgagt ttcgtgccga ataaagagca aacgcggaca gtattaattt 240  
tctgttttca tttgaagaaa acagctgcgg aatcgaccg aatgcttggt gaagcctttg 300  
gcgaacaagt accaactgtg aaaacgtgtg aacggtggtt tcaacgcttc aaaagtgggtg 360  
at tttagcgt cgacgacaaa gagcacggaa aaccgcaaaa aaggtagcaa gacgccgaac 420  
tgcaagcatt attggatgaa gacgatgctc aaacgcaaaa acaactcgca gagcagttgg 480



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gtagatgggt gccacatgag ttgaacgaga ggcagatgga gaggcgcaaa aacacatgcg	600
aaattttgct ttcacgatac aaaaggaagt cgtttttgca tcgtatcggt actggagatg	660
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cggccacatc gactgctcga ccgaatcgct ttggcaagaa gacgatgctc tgtgtttggt	780
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atcaaaaaag acaacacagg gtcatttttc tccatgacaa cgctccatca catacggcaa	960
gagcggttcg cgacacgttg gaaacactca attgggaagt gcttccgcat gcggcttact	1020
caccagacct ggccccatcc gattaccacc tattcgcttc gatgggacac gcactcgctg	1080
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aagacgatga gttctactgg cgtggaatcc acaaattgcc cgagagatgg gaaaaatgtg	1200
tagctagcga cggcaaatac tttgaataaa tgattttttc tttttccaca aaatttaacg	1260
tgttttttga tttaaaaaaa acgacatttc atacttgtac acctgataat tctccgaaag	1320
cttcag	1326

<210> 27

<211> 1326

<212> DNA

<213> Artificial

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<223> oxTi2 insertion of Mos1 into C. Elegans genome

<400> 27

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ccttgactgt cgaaccacca tagtttggcg cgaattgagc gtcataattg tttactctca	180
gtgcagtcaa catgtcgagt ttcgtgccga ataaagagca aacgcggaca gtattaattt	240
tctgttttca tttgaagaaa acagctgcgg aatcgcaccg aatgcttggt gaagcctttg	300
gcgaacaagt accaactgtg aaaacgtgtg aacggtggtt tcaacgcttc aaaagtgggtg	360
atthtgacgt cgacgacaaa gagcacggaa aaccgcaaaa aaggtacgaa gacgccgaac	420
tgcaagcatt attggatgaa gacgatgctc aaacgcaaaa acaactcgca gagcagttgg	480
aagtaagtca acaagcagtt tccaatcgct tgcgagagat gggaaagatt cagaagggtcg	540

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aaatTTTtGct tTcacgatac aaaaggaagt cgtTTTTtgca tcgtatcggt actggagatg	660
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aatcgc	1326

<210> 28  
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 <213> Artificial

<220>  
 <223> oxTi3 insertion of Mos1 into C. Elegans genome

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ccttgactgt cgaaccacca tagtttggcg cgaattgagc gtcataattg tttactctca	180
gtgcagtcaa catgtcgagt ttcgtgccga ataaagagca aacgcggaca gtattaattt	240
tctgttttca tttgaagaaa acagctgcgg aatcgcaccg aatgcttggt gaagcctttg	300
gcgaacaagt accaactgtg aaaacgtgtg aacggtgggt tcaacgcttc aaaagtgggtg	360
atTTTtgacgt cgacgacaaa gagcacggaa aaccgccaaa aaggtacgaa gacgccgaac	420
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gtagatgggt gccacatgag ttgaacgaga ggcagatgga gaggcgcaaa aacacatgcg	600
aaatTTTtGct tTcacgatac aaaaggaagt cgtTTTTtgca tcgtatcggt actggagatg	660

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cggccacatc gactgctcga ccgaatcgct ttggcaagaa gacgatgctc tgtgttttgt 780
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tagctagcga cggcaaatac tttgaataaa tgattttttc tttttccaca aaattttaacg 1260
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aaggat 1326

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<220>
<223> oxTi4 insertion of Mos1 into C. Elegans genome

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ccttgactgt cgaaccacca tagtttggcg cgaattgagc gtcataattg tttactctca 180
gtgcagtcaa catgtcgagt ttcgtgccga ataaagagca aacgcggaca gtattaattt 240
tctgttttca tttgaagaaa acagctgcgg aatcgccacc aatgcttggt gaagcctttg 300
gcgaacaagt accaactgtg aaaacgtgtg aacggtgggt tcaacgcttc aaaagtgggtg 360
attttgacgt cgacgacaaa gagcacggaa aaccgcaaaa aaggtagcaa gacgccgaac 420
tgcaagcatt attggatgaa gacgatgctc aaacgcaaaa acaactcgca gagcagttgg 480
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gtagatgggt gccacatgag ttgaacgaga ggcagatgga gaggcgcaaa aacacatgcg 600
aaattttgct ttcacgatac aaaaggaagt cgtttttgca tcgtatcggt actggagatg 660
aaaaatggat cttttttgtt aatcctaaac gtaaaaagtc atacgttgat cctggacaac 720

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gagcggttcg cgacacgttg gaaacactca attgggaagt gcttccgcat gcggcttact	1020
caccagacct ggccccatcc gattaccacc tattcgcttc gatgggacac gcactcgctg	1080
agcagcgctt cgattcttac gaaagtgtga aaaaatggct cgatgaatgg ttcgccgcaa	1140
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ccttgc	1326

<210> 30  
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 <212> DNA  
 <213> Artificial

<220>  
 <223> oxTi5 insertion of Mos1 into C. Elegans genome

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ccttgactgt cgaaccacca tagtttggcg cgaattgagc gtcataattg tttactctca	180
gtgcagtcaa catgtcgagt ttcgtgccga ataaagagca aacgcggaca gtattaattt	240
tctgttttca tttgaagaaa acagctgcgg aatcgcaccg aatgcttgtt gaagcctttg	300
gcgaacaagt accaactgtg aaaacgtgtg aacggtgggt tcaacgcttc aaaagtgggtg	360
attttgacgt cgacgacaaa gagcacggaa aaccgccaaa aaggtagcaa gacgccgaac	420
tgcaagcatt attggatgaa gacgatgctc aaacgcaaaa acaactcgca gagcagttgg	480
aagtaagtca acaagcagtt tccaatcgct tgcgagagat gggaaagatt cagaaggctg	540
gtagatgggt gccacatgag ttgaacgaga ggcagatgga gaggcgcaaa aacacatgcg	600
aaattttgc ttcacgatac aaaaggaagt cgtttttgca tcgtatcggt actggagatg	660
aaaaatggat cttttttgtt aatcctaaac gtaaaaagtc atacgttgat cctggacaac	720
cggccacatc gactgctcga ccgaatcgct ttggcaagaa gacgatgctc tgtgttttgg	780
gggatcagag cgggtgtcatt tactatgagc tcttgaaacc cggcgaaacg gtgaatacgg	840

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cacgctacca acaacaattg atcaatttga accgtgcgct tcagagaaaa cgaccggaat    900
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gagcggttcg cgacacgttg gaaacactca attgggaagt gcttccgcat gcggcttact   1020
caccagacct ggccccatcc gattaccacc tattcgcttc gatgggacac gcaactcgctg   1080
agcagcgctt cgattcttac gaaagtgtga aaaaatggct cgatgaatgg ttcgccgcaa   1140
aagacgatga gttctactgg cgtggaatcc acaaattgcc cgagagatgg gaaaaatgtg   1200
tagctagcga cggcaaatac tttgaataaa tgattttttc tttttccaca aaatttaacg   1260
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acaccg                                     1326

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<210> 31
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<220>
<223> oxTi6 insertion of Mos1 into C. Elegans genome

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ccttgactgt cgaaccacca tagtttggcg cgaattgagc gtcataattg tttactctca   180
gtgcagtcaa catgtcgagt ttcgtgccga ataaagagca aacgcggaca gtattaattt   240
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tgcaagcatt attggatgaa gacgatgctc aaacgcaaaa acaactcgca gagcagttgg   480
aagtaagtca acaagcagtt tccaatcgct tgcgagagat gggaaagatt cagaaggtcg   540
gtagatgggt gccacatgag ttgaacgaga ggcatgga gaggcgcaaa aacacatgcg   600
aaattttgc ttcacgatac aaaaggaagt cgtttttgca tcgtatcggt actggagatg   660
aaaaatggat cttttttggt aatcctaaac gtaaaaagtc atacgttgat cctggacaac   720
cggccacatc gactgctcga ccgaatcgct ttggcaagaa gacgatgctc tgtgttttgg   780
gggatcagag cgggtgtcatt tactatgagc tcttgaaacc cggcgaaacg gtgaatacgg   840
cacgctacca acaacaattg atcaatttga accgtgcgct tcagagaaaa cgaccggaat    900

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atcaaaaaag acaacacagg gtcatttttc tccatgacaa cgctccatca catacggcaa	960
gagcggttcg cgacacgttg gaaacactca attgggaagt gcttccgcat gcggcttact	1020
caccagacct ggccccatcc gattaccacc tattcgcttc gatgggacac gcactcgctg	1080
agcagcgctt cgattcttac gaaagtgtga aaaaatggct cgatgaatgg ttcgccgcaa	1140
aagacgatga gttctactgg cgtggaatcc acaaattgcc cgagagatgg gaaaaatgtg	1200
tagctagcga cggcaaatac tttgaataaa tgattttttc tttttccaca aaatttaacg	1260
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agattt	1326

<210> 32  
 <211> 1326  
 <212> DNA  
 <213> Artificial

<220>  
 <223> oxTi8 insertion of Mos1 into C. Elegans genome

<400> 32	
gacgcaataa atccacaata ccaggtgtac aagtagggaa tgtcggttcg aacatataga	60
tgtctcgcaa acgtaaatat ttatcgattg tcataaaact ttgaccttgt gaagtgtcaa	120
ccttgactgt cgaaccacca tagtttggcg cgaattgagc gtcataattg tttactctca	180
gtgcagtcaa catgtcgagt ttctgtccga ataaagagca aacgcggaca gtattaattt	240
tctgttttca tttgaagaaa acagctgcgg aatcgcaccg aatgcttggt gaagcctttg	300
gcgaacaagt accaactgtg aaaacgtgtg aacggtggtt tcaacgcttc aaaagtgggtg	360
attttgacgt cgacgacaaa gagcacggaa aaccgccaaa aaggtacgaa gacgccgaac	420
tgcaagcatt attggatgaa gacgatgctc aaacgcaaaa acaactcgca gagcagttgg	480
aagtaagtca acaagcagtt tccaatcgct tgcgagagat gggaaagatt cagaaggtcg	540
gtagatgggt gccacatgag ttgaacgaga ggcagatgga gaggcgcaaa aacacatgcg	600
aaattttgct ttcacgatac aaaaggaagt cgtttttgca tcgtatcggt actggagatg	660
aaaaatggat cttttttgtt aatcctaaac gtaaaaagtc atacgttgat cctggacaac	720
cggccacatc gactgctcga ccgaatcgct ttggcaagaa gacgatgctc tgtgtttggt	780
gggatcagag cgggtgtcatt tactatgagc tcttgaaacc cggcgaaacg gtgaatacgg	840
cacgctacca acaacaattg atcaatttga accgtgcgct tcagagaaaa cgaccggaat	900
atcaaaaaag acaacacagg gtcatttttc tccatgacaa cgctccatca catacggcaa	960
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# Sequence Listing 6277US.ST25

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caccagacct ggccccatcc gattaccacc tattcgcttc gatgggacac gcactcgctg 1080
agcagcgctt cgattcttac gaaagtgtga aaaaatggct cgatgaatgg ttcgccgcaa 1140
aagacgatga gttctactgg cgtggaatcc acaaattgcc cgagagatgg gaaaaatgtg 1200
tagctagcga cggcaaatac tttgaataaa tgattttttc tttttccaca aaatttaacg 1260
tgttttttga tttaaaaaaa acgacatttc atacttgtac acctgataat tttcccgaact 1320
cttaca 1326
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<210> 33
<211> 1326
<212> DNA
<213> Artificial
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<220>
<223> oxTi9 insertion of Mos1 into C. Elegans genome
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<400> 33
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tgtctcgcaa acgtaaatat ttatcgattg tcataaaact ttgaccttgt gaagtgtcaa 120
ccttgactgt cgaaccacca tagtttggcg cgaattgagc gtcataattg tttactctca 180
gtgcagtcaa catgtcgagt ttctgtccga ataaagagca aacgcggaca gtattaattt 240
tctgttttca tttgaagaaa acagctgcgg aatcgaccg aatgcttggt gaagcctttg 300
gcgaacaagt accaactgtg aaaacgtgtg aacgggtggt tcaacgcttc aaaagtgggtg 360
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tgcaagcatt attggatgaa gacgatgctc aaacgcaaaa acaactcgca gagcagttgg 480
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gtagatgggt gccacatgag ttgaacgaga ggcagatgga gaggcgcaaa aacacatgcg 600
aaatthtgct ttcacgatac aaaaggaagt cgtthttgca tcgtatcggt actggagatg 660
aaaaatggat cthttttgtt aatcctaacc gtaaaaagtc atacgttgat cctggacaac 720
cggccacatc gactgctcga ccgaatcgct ttggcaagaa gacgatgctc tgtgtttggt 780
gggatcagag cgggtgtcatt tactatgagc tcttgaaacc cggcgaaacg gtgaatacgg 840
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atcaaaaaag acaacacagg gtcattthttc tccatgacaa cgctccatca catacggcaa 960
gagcggttcg cgacacgttg gaaacactca attgggaagt gcttccgcat gcggcttact 1020
caccagacct ggccccatcc gattaccacc tattcgcttc gatgggacac gcactcgctg 1080
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agcagcgctt cgattcttac gaaagtgtga aaaaatggct cgatgaatgg ttcgccgcaa 1140
aagacgatga gttctactgg cgtggaatcc acaaattgcc cgagagatgg gaaaaatgtg 1200
tagctagcga cggcaaatac tttgaataaa tgattttttc tttttccaca aaatttaacg 1260
tgttttttga tttaaaaaaa acgacatttc atacttgtac acctgataaa tgtcatcaga 1320
attcat 1326

```

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<210> 34
<211> 1326
<212> DNA
<213> Artificial

```

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<220>
<223> oxTill insertion of Mos1 into C. Elegans genome

```

```

<400> 34
acaaaaagca aaaacactta ccaggtgtac aagtagggaa tgtcggttcg aacatataga 60
tgtctcgcaa acgtaaatat ttatcgattg tcataaaact ttgaccttgt gaagtgtcaa 120
ccttgactgt cgaaccacca tagtttggcg cgaattgagc gtcataattg tttactctca 180
gtgcagtcaa catgtcgagt ttcgtgccga ataaagagca aacgcggaca gtattaattt 240
tctgttttca tttgaagaaa acagctgcgg aatcgaccg aatgcttggt gaagcctttg 300
gcgaacaagt accaactgtg aaaacgtgtg aacggtgggt tcaacgcttc aaaagtgggt 360
attttgacgt cgacgacaaa gagcacggaa aaccgcaaaa aaggtacgaa gacgccgaac 420
tgcaagcatt attggatgaa gacgatgctc aaacgcaaaa acaactcgca gagcagttgg 480
aagtaagtca acaagcagtt tccaatcgct tgcgagagat gggaaagatt cagaaggtcg 540
gtagatgggt gccacatgag ttgaacgaga ggcagatgga gaggcgcaaa aacacatgcg 600
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aaaaatggat cttttttgtt aatcctaaac gtaaaaagtc atacgttgat cctggacaac 720
cggccacatc gactgctcga ccgaatcgct ttggcaagaa gacgatgctc tgtgtttggt 780
gggatcagag cgggtgcatt tactatgagc tcttgaaacc cggcgaaacg gtgaatacgg 840
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agcagcgctt cgattcttac gaaagtgtga aaaaatggct cgatgaatgg ttcgccgcaa 1140
aagacgatga gttctactgg cgtggaatcc acaaattgcc cgagagatgg gaaaaatgtg 1200

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tagctagcga cggcaaatac tttgaataaa tgattttttc tttttccaca aaattttaacg	1260
tgtttttttga tttaaaaaaaaa acgacatttc atacttgtac acctgataac caaatgatgg	1320
gtggca	1326

<210> 35  
 <211> 1322  
 <212> DNA  
 <213> Artificial

<220>  
 <223> oxTi4 insertion of Mos1

<400> 35	
ctctttttcca gacgagtacc aggtgtacaa gtagggaatg tcggttcgaa catatagatg	60
tctcgcaaac gtaaataattt atcgattgtc ataaaaacttt gaccttgtga agtgtcaacc	120
ttgactgtcg aaccaccata gtttggcgcg aattgagcgt cataattgtt tactctcagt	180
gcagtcaaca tgtcgagttt cgtgccgaat aaagagcaaa cgcggacagt attaattttc	240
tgttttcatt tgaagaaaac agctgcggaa tcgcaccgaa tgcttgttga agcctttggc	300
gaacaagtac caactgtgaa aacgtgtgaa cgggtggtttc aacgcttcaa aagtggatgat	360
tttgacgtcg acgacaaaaga gcacggaaaa cgcgcaaaaa ggtacgaaga cgccgaactg	420
caagcattat tggatgaaga cgatgctcaa acgcaaaaac aactcgcaga gcagttggaa	480
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attttgcttt cacgatacaa aaggaagtcg tttttgcac gtatcgttac tggagatgaa	660
aaatggatct tttttgttaa tcctaaacgt aaaaagtcac acgttgatcc tggacaaccg	720
gccacatcga ctgctcgacc gaatcgcttt ggcaagaaga cgatgctctg tgtttggtgg	780
gatcagagcg gtgtcattta ctatgagctc ttgaaacccg gcgaaacggt gaatacggca	840
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caaaaaagac aacacagggt catttttctc catgacaacg ctccatcaca tacggcaaga	960
gcggttcgcg acacgttggg aacactcaat tgggaagtgc ttccgcatgc ggcttactca	1020
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cagcgcttcg attcttacga aagtgtgaaa aaatggctcg atgaatggtt cgccgcaaaa	1140
gacgatgagt tctactggcg tggaatccac aaattgcccg agagatggga aaaatgtgta	1200
gctagcgacg gcaaatactt tgaataaatg attttttctt tttccacaaa atttaacgtg	1260

Sequence Listing 6277US.ST25

ttttttgatt taaaaaaaaac gacatttcat acttgtagac ctgatatac cttttgttcc 1320  
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<210> 36  
 <211> 36  
 <212> DNA  
 <213> Artificial

<220>  
 <223> lesion generated after removal of Mos1 in oxTi4 insertion

<400> 36  
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<210> 37  
 <211> 37  
 <212> DNA  
 <213> Artificial

<220>  
 <223> lesion generated after removal of Mos1 in oxTi4 insertion

<400> 37  
 ctcttttcca gacgagtaat atatcctttt gttcctt 37

<210> 38  
 <211> 39  
 <212> DNA  
 <213> Artificial

<220>  
 <223> lesion generated after removal of Mos1 in oxTi4 insertion

<400> 38  
 ctcttttcca gacgagtatg atatatcctt ttgttcctt 39

<210> 39  
 <211> 37  
 <212> DNA  
 <213> Artificial

<220>  
 <223> lesion generated after removal of Mos1 in oxTi4 insertion

<400> 39  
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<210> 40  
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 <212> DNA  
 <213> Artificial

<220>

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<223> lesion generated after removal of Mos1 in oxTi4 insertion

<400> 40  
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<210> 41  
<211> 17  
<212> DNA  
<213> Artificial

<220>  
<223> lesion generated after removal of Mos1 in oxTi4 insertion

<400> 41  
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<210> 42  
<211> 18  
<212> DNA  
<213> Artificial

<220>  
<223> lesion generated after removal of Mos1 in oxTi4 insertion

<400> 42  
ctctttttcca gacgagta 18

<210> 43  
<211> 66  
<212> DNA  
<213> Artificial

<220>  
<223> lesion generated after removal of Mos1 in oxTi4 insertion

<400> 43  
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ttcctt 66